

REMARKS


Attached hereto is a marked-up version of the changes made to the application by the present Amendment. If clarification of the amendment or application is desired, or if issues are present which the Examiner believes may be quickly resolved, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. LUS-13047.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By: _____


David E. Span, Reg. No. 34732

700 Huntington Building
925 Euclid Avenue
Cleveland, Ohio 44115-1405
(216) 566-9700
Customer No. 007609

Attachment: Marked-up version of Amendments

Marked-up Version of AmendmentIN THE CLAIMS:

The claims have been amended as follows:

1. (amended) A mixture of two particulate phases to be used in the production of a green compact that can be sintered at higher temperatures, ~~{characterized in that}~~ wherein

~~{A) the}~~ A) a first phase contains particles that consist of a metal compound;

B) ~~{the}~~ a second phase contains particles selected from ~~{the}~~ a group of ~~{the}~~ inorganic compounds which at temperatures beyond 400 ~~{DEG}~~°C do not release any decomposition products that are interstitially soluble in the sintering metal phase and/or react with said phase to form stable compounds; and

C) that the inorganic compounds are selected from ~~{the}~~ a group consisting of ~~{the}~~ alkali halogenides ~~{or}~~ and alkaline earth halogenides.

2. (amended) ~~{A}~~ The mixture as claimed in claim 1, ~~{characterised in that}~~ wherein the metal compound is a titan compound.

3. (amended) ~~{A}~~ The mixture as claimed in claim 1 ~~{or 2, characterised in that}~~, wherein the first phase of the mixture additionally comprises particles ~~{which}~~ that consist of a metal.

Marked-up Version of Amendment

4. (amended) ~~{A} The mixture as claimed in claim 1 ~~[or 2, characterised in that],~~~~
wherein the first phase of the mixture additionally comprises particles ~~[which] that~~ consist
of a metal alloy.

5. (amended) ~~{A} The mixture as claimed in ~~[any one of the claims 1 to 4,~~~~
~~characterised in that] claim 1, wherein~~ the inorganic compounds are selected from the
following group: NaCl, CaF₂, K₃AlF₆ and Na₃AlF₆.

6. (amended) ~~{A} The mixture as claimed in ~~[any of the claims 1 to 5,~~~~
~~characterised in that] claim 1, wherein~~ the bodies of the first and/or the second phase
are agglomerates or shaped corpuscles of powder particles ~~[which] that~~ are kept in place
by means of a binder that disintegrates and/or evaporates at temperatures below the
beginning of the sintering process.

7. (amended) ~~{A} The mixture as claimed in ~~[any of the claims 1 to 6,~~~~
~~characterised in that] claim 1, wherein~~ the first phase comprises oxides of at least one of
the metals ~~[which] that~~ form the sintered alloy.

8. (amended) ~~{A} The mixture as claimed in ~~[any of the claims 1 to 6,~~~~
~~characterised in that] claim 1, wherein~~ the first phase comprises nitrides of at least one
of the metals ~~[which] that~~ form the sintered alloy.

Marked-up Version of Amendment

9. (amended) [A] The mixture as claimed in ~~{any of the claims 1 to 6,~~
~~characterised in that}~~ claim 1, wherein the first phase comprises hydrides of at least one
of the metals ~~{which}~~ that form the sintered alloy.

10. (amended) [A] The mixture as claimed in ~~{any of the claims 1 to 9,~~
~~characterised in that}~~ claim 1, wherein the first phase comprises particles consisting of
titanium hydride.

11. (amended) [A] The mixture as claimed in ~~{any of the claims 1 to 10,~~
~~characterised in that}~~ claim 1, wherein at least part of the particles of the first phase are
provided with a metal coating which in contact with the other components of the first
phase form, at least at the beginning of the sintering process, a low melting point alloy
and that after termination of the sintering process the concentration of this metal in the
alloy corresponds to the desired value.

12. (amended) [A] The mixture as claimed in ~~{any of the claims 1 to 11,~~
~~characterised in that}~~ claim 1, wherein, in addition to the first and second phases ~~{it~~
~~contains}~~, the mixture further comprises a third phase in the form of an organic or
inorganic binder in a composition corresponding to that used in powder injection
~~{moulding}~~ molding.

13. (amended) A method for producing a shaped body that can be sintered at
higher temperatures as claimed in ~~{any of the claims 1 to 12, characterised in that}~~ claim

Marked-up Version of Amendment

1, wherein the first and second phases composing the mixture are homogeneously mixed and that subsequently said mixture is inserted into a ~~[mould]~~ mold which at the sintering temperature is thermally and chemically stable.

14. (amended) A shaped body capable of being sintered, which is obtained by the ~~[methods]~~ method according to claim 13.

15. (amended) A method for producing shaped metal bodies with interconnecting pore structures by using the shaped body capable of being sintered as claimed in claim 14, ~~[characterised by the following procedure step]~~ comprising the step of: heating of the green compact until the particles of the first phase are sintered so as to form an interconnecting pore structure, the particles of the second phase being eliminated from the pores of the shaped body during or subsequent to the sintering process.

16. (amended) ~~[A]~~ The method as claimed in claim 15, ~~[characterised in that]~~ wherein the elimination of the particles of the second phase takes place prior to or during the sintering process at a temperature beyond 400 ~~[DEG]~~°C.

17. (amended) ~~[A]~~ The method as claimed in claim 16, ~~[characterised in that]~~ wherein the elimination of the particles of the second phase takes place subsequent to the sintering process by dissolving out said particles using a solvent.

Marked-up Version of Amendment

18. (amended) [A] The method as claimed in ~~{any of the claims 13 to 17,~~
~~characterised in that}~~ claim 17, wherein after having undergone the sintering process,
the shaped body is treated with a liquid and/or a vaporous alkali metal or alkaline earth
metal.

19. (amended) A shaped metal body obtained in accordance with ~~{any of}~~ the
method ~~{claims 13 to}~~ of claim 18.

20. (amended) [A] The shaped metal body as claimed in claim 19, ~~{characterised~~
~~in that}~~ wherein the pores of the interconnecting pore structure have a diameter inferior
to 0.4 mm.

21. (amended) A ~~{utilisation}~~ utilization of the shaped metal body as claimed in
claim 19 ~~{or 20}~~ as a surgical implant or as a coating for a surgical implant.

22. (amended) A ~~{utilisation}~~ utilization of the shaped metal body as claimed
in claim 19 ~~{or 20}~~ as a structural member for applications in lightweight construction.

23. (amended) A ~~{utilisation}~~ utilization of the shaped metal body as claimed
in claim 19 ~~{or 20}~~ as an electrode material.

Marked-up Version of AmendmentIN THE ABSTRACT:

The Abstract of the Disclosure has been amended as follows:

ABSTRACT OF THE DISCLOSURE

[The invention relates to a] A mixture of two particulate phases [which is] used in the production of a green compact that can be sintered at higher temperatures. [According to the invention, A) the] The first phase contains particles that consist of a metal and/or a metal allow and/or a metal compound[, and B) the] The second phase contains particles from the group of the inorganic compounds [which] that do not release any decomposition products at temperatures of more than 400 °C, that are interstitially soluble in the sintering metal phase, and/or that react with the second [said] phase to stable compounds. The [inventive] mixture, by providing the second phase, is effective in supporting the fine structure of the first phase against the forces of surface tensions during the sintering process. During sintering, the second phase remains thermally stable and substantially chemically inert with respect to the first phase.